

APPENDIX C

Air Quality Modeling Analyses

Urbemis 2007 Version 9.2.4

Detail Report for Summer Area Source Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\weirichj\Desktop\SERP 08110038.14\serp urbemis.urb924

Project Name: SERP PEIR Emissions Modeling

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

AREA SOURCE EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas							
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products							
Architectural Coatings							
TOTALS (lbs/day, unmitigated)	0.12	0.02	1.55	0.00	0.01	0.01	2.81

Area Source Changes to Defaults

Urbemis 2007 Version 9.2.4

Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\weirichj\Desktop\SERP 08110038.14\serp urbemis.urb924
Project Name: SERP PEIR Emissions Modeling
Project Location: Sacramento County AQMD
On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006
Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10 Total</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5 Total</u>	<u>CO2</u>
Time Slice 5/3/2010-5/14/2010 Active Days: 10	<u>2.66</u>	<u>26.20</u>	<u>13.12</u>	<u>0.01</u>	<u>2.46</u>	<u>1.19</u>	<u>3.64</u>	<u>0.52</u>	<u>1.09</u>	<u>1.61</u>	<u>3,131.74</u>
Fine Grading 05/01/2010-05/15/2010	2.66	26.20	13.12	0.01	2.46	1.19	3.64	0.52	1.09	1.61	3,131.74
Fine Grading Dust	0.00	0.00	0.00	0.00	2.40	0.00	2.40	0.50	0.00	0.50	0.00
Fine Grading Off Road Diesel	2.01	17.00	8.59	0.00	0.00	0.82	0.82	0.00	0.75	0.75	1,564.77
Fine Grading On Road Diesel	0.62	9.14	3.18	0.01	0.05	0.37	0.42	0.02	0.34	0.35	1,427.40
Fine Grading Worker Trips	0.04	0.06	1.35	0.00	0.01	0.00	0.01	0.00	0.00	0.00	139.56

Phase Assumptions

Phase: Fine Grading 5/1/2010 - 5/15/2010 - Default Fine Site Grading Description
Total Acres Disturbed: 0.5
Maximum Daily Acreage Disturbed: 0.12
Fugitive Dust Level of Detail: Default
20 lbs per acre-day
On Road Truck Travel (VMT): 354.55
Off-Road Equipment:
1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day
1 Excavators (168 hp) operating at a 0.57 load factor for 4 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 4 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 4 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Urbemis 2007 Version 9.2.4

Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name: C:\Documents and Settings\weirich\Desktop\SERP 08110038.14\serp urbemis.urb924

Project Name: SERP PEIR Emissions Modeling

Project Location: Sacramento County AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

<u>Source</u>	ROG	NOX	CO	SO2	PM10	PM25	CO2
Repair Area	0.03	0.03	0.36	0.00	0.05	0.01	31.79
TOTALS (lbs/day, unmitigated)	0.03	0.03	0.36	0.00	0.05	0.01	31.79

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 95 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Repair Area		8.00	acres	0.50	4.00	29.48
					4.00	29.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	47.6	1.1	98.7	0.2
Light Truck < 3750 lbs	10.0	2.0	92.0	6.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Truck 3751-5750 lbs	22.5	0.9	98.7	0.4
Med Truck 5751-8500 lbs	10.2	1.0	99.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	2.1	0.0	76.2	23.8
Lite-Heavy Truck 10,001-14,000 lbs	0.9	0.0	55.6	44.4
Med-Heavy Truck 14,001-33,000 lbs	1.6	0.0	18.8	81.2
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.0	0.0	0.0	0.0
Motorcycle	3.5	62.9	37.1	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	10.8	7.3	7.3
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0	10.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Repair Area				2.0	1.0	97.0

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Operational Changes to Defaults

Urbemis 2007 Version 9.2.4

Summary Report for Annual Emissions (Tons/Year)

File Name: C:\Documents and Settings\weirichj\Desktop\SERP 08110038.14\serp urbemis.urb924
Project Name: SERP PEIR Emissions Modeling
Project Location: Sacramento County AQMD
On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006
Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2010 TOTALS (tons/year unmitigated)	0.01	0.13	0.07	0.00	0.01	0.01	0.02	0.00	0.01	0.01	15.66

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.01	0.00	0.14	0.00	0.00	0.00	0.25

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.01	0.01	0.06	0.00	0.01	0.00	5.43

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.02	0.01	0.20	0.00	0.01	0.00	5.68

